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Social Studies

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# Mixing, Kneading, and Baking: The Baker's Art



by
Francelia Sevin

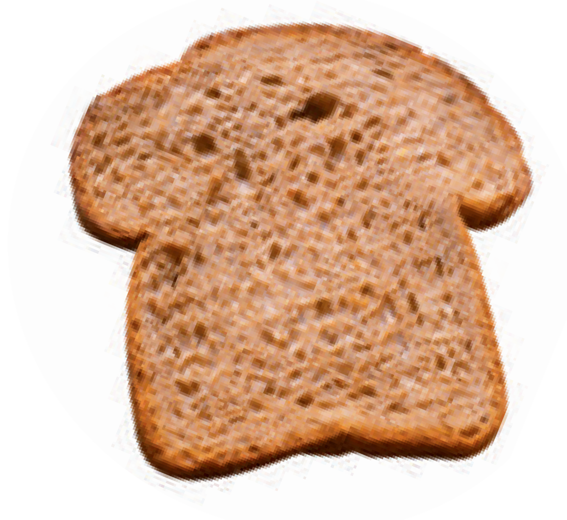
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| Narrative nonfiction | • Draw Conclusions<br>• Main Idea<br>• Summarize | • Captions<br>• Map<br>• Tables<br>• Table of Contents |

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Francelia Sevin

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# CONTENTS



Claudia's bakery is called "artisan" because all the goods are made the traditional way, by hand.

## Chapter 1
## First Start

Baker Claudia walks down the quiet city street to her bakery. The only sounds are her footsteps echoing off the cold asphalt. It is early in the morning and still dark outside. Only the streetlamps light her way. It is so cold Claudia closes her coat against the early morning air.

She stops at the shop door. A kitten dashes to her. He is purring because he knows that he will soon get some warm milk. Claudia picks him up and pets him. Then she pulls a ring of keys from her pocket. They jingle while she searches for the right one. She unlocks the gate and turns on the light. She yawns as she looks at the clock. It's 2:00 A.M.



This is just the beginning of Claudia's long day at the neighborhood **bakery**. Like other **professional** bakers, Claudia goes to work before the sun comes up. That way, the bread and other goods she bakes are still warm when her customers begin to arrive.

Bakers make many wonderful things to eat such as bread, cake, cookies, muffins, and pies. The white hats, aprons, and gloves help bakers keep food clean while they work in the kitchen. A professional bakery has a special kitchen for baking large quantities of things at one time.

It's hard to decide what to get because they all look and smell so good.



The kitchen in a bakery is set up to make baking easy. When you bake, you cook food using dry heat, usually in an oven. A bakery kitchen has a huge oven so that great quantities of bakery goods can be cooked at the same time. In a large bakery, there are huge mixers and long tables for mixing big batches of **dough**. The dough becomes bread after it is baked in an oven. Tall racks stand ready to hold the bread and other baked goods when they come out of the oven. The kitchen may also have special machines that make each stage of baking go faster.

**Four Basic Bread Ingredients** **Table 1**

| |
|---|
| **1. Flour** Is made from grain, such as wheat. It tastes good and provides nutrition. |
| **2. Water** forms dough when added to flour and yeast. |
| **3. Yeast** are tiny organisms that turn sugars into carbon dioxide. Yeast makes dough rise. |
| **4. Salt** makes bread taste good. |



There are many kinds of bakeries. Some, like Claudia's bakery, are neighborhood shops. Other bakeries are quite large. They bake thousands of loaves every day, wrap them, and ship them to stores around the country. The bread on the shelf at the supermarket comes from large bakeries, where huge machines are used to make the bread exactly the same every time.

You will also find all types of **ingredients** in bakeries. Flour, water, **yeast**, and salt are the four basic ingredients for making bread. Each one has an important job (see Table 1). The baker may use other ingredients, such as onions, poppy seeds, and sesame seeds, that are often added to breads or bagels. Sweet fillings such as apples, cherries, peaches, nuts, cinnamon, nutmeg, and vanilla are on hand for baking pies and cakes. By mixing the ingredients and following the **recipe**, a baker makes delicious bakery goods.

Bakers have their own special recipes for different kinds of treats they make. They usually won't tell their recipes. They don't want anyone to know their secret for baking tasty treats.



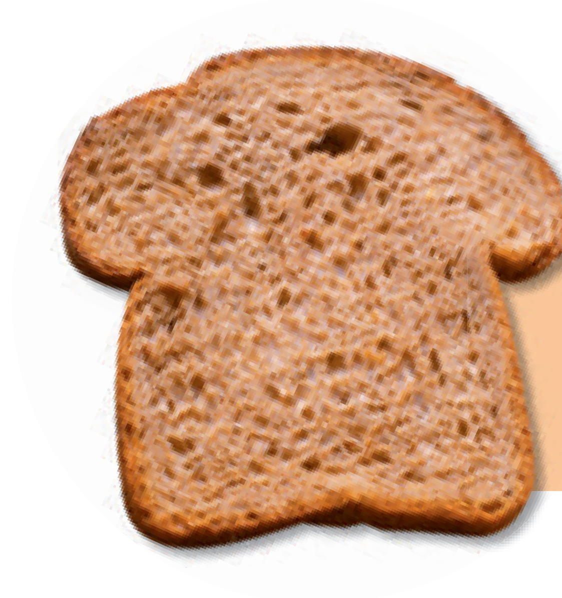
The balls of dough are placed in bowls and sprinkled with a little oil to keep the dough moist.

Chapter 2

## Making Dough

When Claudia first arrives at the bakery, she takes out all the ingredients she needs for baking. She weighs each ingredient for the recipe and places the bowls and mixing tools on the long table. Then she is ready to start.

Today, Claudia is going to make bread first. It is not an ordinary bread, though, for some of the dough will become rosemary bread. Claudia puts the flour, water, and salt in a mixer and adds rosemary to part of the batch of dough. She mixes the dough until it is a fat, stretchy ball.



The pockets of air that make bread fluffy are made by yeast.

It takes patience to make bread. Once the dough is stretchy, you have to let the dough sit for an hour or more to rise. If you don't wait and rush to the next step, your bread will not be bread at all. It will be a hard lump that doesn't taste good.

Claudia knows how yeast works, so she waits patiently. Yeast is a tiny, live organism. It eats the sugars that are part of the dough. As it does, the yeast gives off a gas called **carbon dioxide**. The gas causes the dough to expand. This process is called **fermentation**. This process makes the bread soft and chewy. Some kinds of bread do not need to ferment because they are flat. Flat breads include *tortillas* and *matzo*.

While the dough ferments, Claudia begins making a batch of muffins. There is no time to waste to get ready for the breakfast crowd.

Once the bread dough is big and bubbly, it is ready to be punched down. Punching down may sound dangerous, but it's really not. It just means that you punch the dough to let out the carbon dioxide that was trapped during fermentation. Punching down is Claudia's favorite step in making bread (see Table 2).

Claudia washes her hands and leaves them a little wet so that the dough won't stick to them. She dusts the table with flour and drops the dough on top. Then Claudia **kneads** the dough with her hands, being careful to fold and pull it just the right amount. Every time Claudia twists the dough, carbon dioxide is pushed out.

Claudia wants to make a strong bread that will hold sandwich fillings, so she punches down the dough to get rid of the big bubbles. The dough gets a work out!

When the bubbles are gone and the dough feels tight, Claudia cuts the dough into pieces. She weighs the pieces to make sure the loaves are all about the same size.



This step is called dividing (see Table 2). Claudia shapes the pieces of dough into balls (rounding) that will become loaves.

## Making Bread

Table 2

| | |
|---|---|
| Step 1<br>Setting Up | Gather the tools and measure the ingredients for the recipe. |
| Step 2<br>Mixing | Mix the ingredients together until they become a stretchy ball of dough. |
| Step 3<br>Fermentation | Let the dough sit until the yeast makes it rise. |
| Step 4<br>Punching Down | Knead the dough to push out the carbon dioxide. |
| Step 5<br>Dividing | Cut the dough into pieces and weigh them. |
| Step 6<br>Rounding | Shape the pieces of dough into balls. |
| Step 7<br>Benching | Let the dough sit out and rest |
| Step 8<br>Shaping and Panning | Form the dough into loaves and put them in pans. |
| Step 9<br>Proofing | Leave the bread to rise a second time. |
| Step 10<br>Baking | Put the loaves in the oven and let them bake. |
| Step 11<br>Cooling | When the baking is done, take the loaves out and let them cool. |
| Step 12<br>Displaying and Selling | Once the bread has cooled, serve it or display it for sale. |



Chapter 3

## Into the Oven

After the dough is shaped, it's time to wait again. Just as you sometimes sit on the bench when playing a team sport, the dough needs to sit out too. The dough needs a rest after the workout it has received. The longer the dough is benched (see Table 2, on page 11), the better its stretch. Claudia sets a timer for a half hour. Then she goes back to making muffins. She wants to have both the bread and muffins ready when she opens the bakery.



Time's up! When the timer goes off, Claudia folds some of the bread dough into loaves and puts them in pans (see Table 2, on page 11). She molds the rest of the dough into different shapes. You have probably seen many different shapes of bread. Some of the loaves people like best are the *boule* (ball), *batard* (torpedo), *fendu* (split loaf), and braid. Of course, there is also the pretzel! Claudia will make bread in a variety of shapes. And don't forget part of the batch of dough will become rosemary bread.



Claudia puts the shaped loaves into the proofing box. This is a special box that keeps the loaves warm and moist. Here, the loaves ferment again. Claudia cuts some of the loaves into smaller pieces to make rolls.

Claudia leaves the loaves and rolls in the proofing box until they near their final size. While they are growing, she turns on the oven.

While the oven warms up, Claudia finishes her muffins and puts them into the oven. Then she goes to the front of the shop and sets up the cash register. The bread and rolls will soon be baked, and customers will begin arriving, so she needs to be ready to make change.

When the oven is hot and the loaves and rolls are fat, Claudia cuts lines into the tops of the dough. The cuts let carbon dioxide out while the bread and rolls bake.

Finally Claudia puts the dough in the oven and presses a button. Steam shoots into the oven, which makes the crust crisp. As the bread and rolls bake and rise to their full size, the wonderful aroma of bread baking fills the bakery kitchen.





Chapter 4

## Open for Business

While the bread bakes, Claudia makes sure she has everything she needs for her customers: bags, boxes, cakes, and pastries that she will start baking soon.

Then Claudia checks the bread. She has already taken the rolls out of the oven. The middle of the loaves are very hot. At 200 degrees, they are done. Claudia pulls out a fresh batch of baked bread.



You might think the bread is ready, now that it is baked, but it's not! Bread continues to bake, even after you take it out of the oven. That's why cooling is a step in baking bread. As bread cools, the air in the room takes water out of it.

Loaves can take two hours to cool. Once again, Claudia has to be patient. If Claudia bags the bread before it is cool, the bread will become damp and may spoil.

Claudia calls patience "the fifth ingredient." She says that, in baking, patience is just as important as fresh ingredients. While Claudia waits for the bread, though, she stays busy. Everything must be kept clean. The shelves need to be stocked, so that she never runs out of ingredients. Claudia always keeps two, three, or even more batches of baked goods going at the same time.



Displaying and selling is the last step in making bread. All the other steps in Table 2 lead up to it. Claudia's paper bags keep the hard breads with thick crusts crisp and crunchy. Her soft breads do well in plastic bags. She never puts bread in the cooler because it will dry out the bread and make it stale. Instead, Claudia puts the bread in baskets and only bags a loaf when a customer buys it.

Soon after the bread has cooled, the bell on the door of the bakery jingles. It's Wade, on his way to work, looking for a fresh-baked muffin for breakfast. Luckily, they are ready. Wade is Claudia's first customer of the day. Soon, there are many more. People come from all over town to buy Claudia's fine foods. They are never disappointed.

When Lisa comes in and orders twelve muffins, Claudia gives her an extra one for free. That's called the **baker's dozen**. It's a very old custom that bakers in many countries still like to do today.

## Chapter 5

# An International Bakery

All day, people come and go at Claudia's bakery. Some people are in a hurry, and some take a long time to decide. With so many customers, Claudia needs help to run her bakery, so Josh comes in to take orders and make deliveries. That way, Claudia can keep on baking all day long. Also, customers always smell something good in the oven when they visit the bakery.

Claudia has an international bakery. That means she makes bread and pastries that originated in countries around the world. Some bakeries have baked goods from only one country or culture. In a French bakery, you might bite into a buttery roll called a *croissant*, but you probably wouldn't get a bagel.

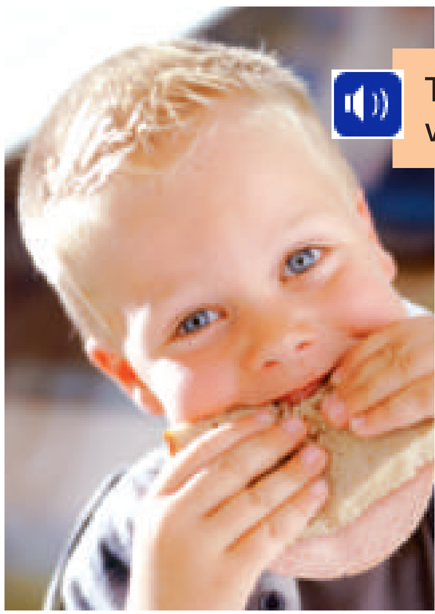
In an Italian bakery, you might munch on a crusty loaf of Italian bread, but you probably won't find corn bread. A Southern bakery definitely sells corn bread. Every part of the world has its own kind of bread (see the map).

While a Latin American bakery makes *tortillas*, an Indian shop sells *chapati*. At a Jewish bakery you can buy *challah*, and you will find *fry bread* in Native American bakeries.




All over the world, people eat bread and pastry. It's no wonder it's called the "staff of life."

People like to try bread from different countries, so Claudia likes to have a special bread of the month. The recipe for the bread of the month can come from any country in the world. No matter which bread Claudia bakes, though, she follows a recipe, weighs her ingredients carefully, and patiently waits while the bread bakes. If you could visit Claudia's bakery, what kind of bread would you like to try?



There is nothing that tastes quite so wonderful as freshly baked bread.

## Chapter 6
## A Bakery Success

Claudia didn't start off as a good baker. It took her a long time to learn the art of baking. When she was first learning, her bread sometimes burned, or it was hard and heavy, like a brick, because she didn't let it rise long enough. Sometimes the bread looked fine, but it didn't taste very good. Lots of things can go wrong in baking.



That's why some people say baking is an art. It's also why bakers try to be exact in following a recipe.

In cooking school, Claudia baked hundreds of breads, cakes, cookies, muffins, bagels, and even dog biscuits! She liked baking bread best, though, so today that is still her bakery's specialty.

There is more to running a bakery than just baking! Claudia also took classes in math, science, nutrition, sales, and business. All these classes helped her start her bakery—and keep it going. Claudia uses math every day. She measures ingredients, gives change, pays Josh, and makes budgets. She also uses science. If she didn't understand fermentation or nutrition, she couldn't make such good bread. The other classes helped her to run the business.

Claudia wakes up early and works hard all day. If she is not mixing a batch of dough, she is helping a customer, placing an order, or sweeping up. She says, it's all worth it when she sees a customer with closed eyes taking a bite of bread that is still warm from the oven—absolute joy!

# Now Try This

Bread is not the only kind of food that originated in countries around the world. Many of the foods we eat today in the United States come from many different countries. You are going to become a food detective. What does a food detective do? A food detective finds out the country of origin of different kinds of foods.

Using the list of foods on page 23, research where each food originally came from. For example, many of you might think the potato originated in Ireland. Well, the country of origin for the potato is Peru.



## Here's How to Do It!

1. Choose a partner to work with on this project.
2. Look at the map on pages 18 and 19. It is a map of the world.
3. Look at the list of foods below. Choose 10 to 12 foods to research.
4. Research the country from which each of the foods originated.
5. Make a chart listing the food and its country of origin.
6. Share your research with classmates.

| | | |
|---|---|---|
| chilies | beets | lemons |
| peanuts | melons | wheat |
| corn | pig (bacon, pork chops, ham) | peas |
| rice | | pumpkins |
| avocadoes | radishes | beans |
| peaches | eggplant | yams |
| oranges | pineapples | brussel sprouts |
| cauliflower | beets | macaroni (pasta) |
| chickens | cattle (beef) | |

# Glossary

**baker's dozen** *n.* thirteen

**bakery** *n.* a place where baked goods are made

**carbon dioxide** *n.* a gas that yeast gives off when it eats sugar

**dough** *n.* a mixture of flour, water, yeast, and salt; bread before it is baked

**fermentation** *n.* the process of yeast eating sugar and giving off carbon dioxide; what makes bread rise

**ingredients** *n.* the things you mix together to make various kinds of foods

**knead** *v.* to fold, press, and stretch a dough to make it smooth

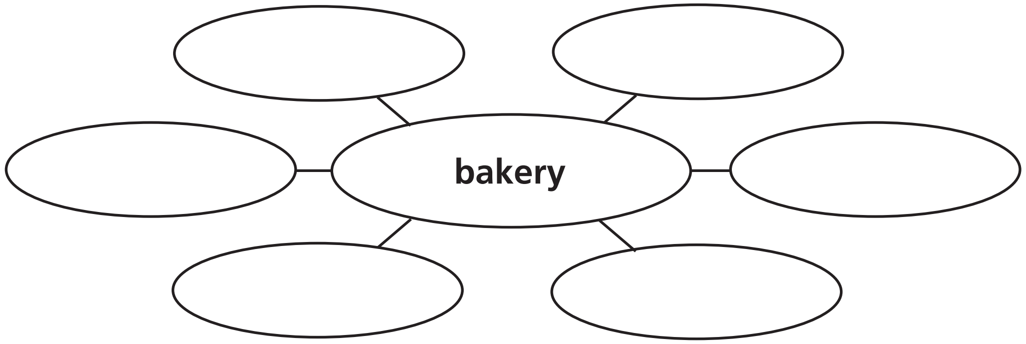
**professional** *adj.* showing a high degree of skill; belonging to a profession

**recipe** *n.* a list of ingredients and instructions for making a food dish

**yeast** *n.* tiny organisms that are added to dough to make it rise

# Reader Response

1. On page 9, the author discusses yeast. What do you think would happen to the bread if Claudia forgot to put the yeast in the dough? Why?
2. Use the table on page 11 to summarize how bread is made.
3. Use a web like the one below. Write the word **bakery** in the center. Around it write words and phrases from the book that relate to the word *bakery.*




4. Look at the map on pages 18–19. Name four different countries and the breads that originated in those countries.